

BIOS SETUP

Main Menu

The ROM BIOS contains a built-in Setup program which allows user to modify the basic system configuration and hardware parameters. The modified data is stored in a battery-backed CMOS, so that data will be retained even when the power is turned off. In general, the information saved in the CMOS RAM will stay unchanged unless there is a configuration change in the system, such as hard drive replacement or a device is added.

It is possible for the CMOS battery to fail causing CMOS data loss. If this happens you will need install a new CMOS battery and reconfigure your BIOS settings.



The BIOS setup screen and description are for reference only, and may not exactly match what you see on your screen. The contents of BIOS are subject to change without notice. Please visit our website for BIOS updates.

To enter the Setup Program :

Power on the computer and press the key during the POST (Power On Self Test). The BIOS CMOS SETUP UTILITY opens.

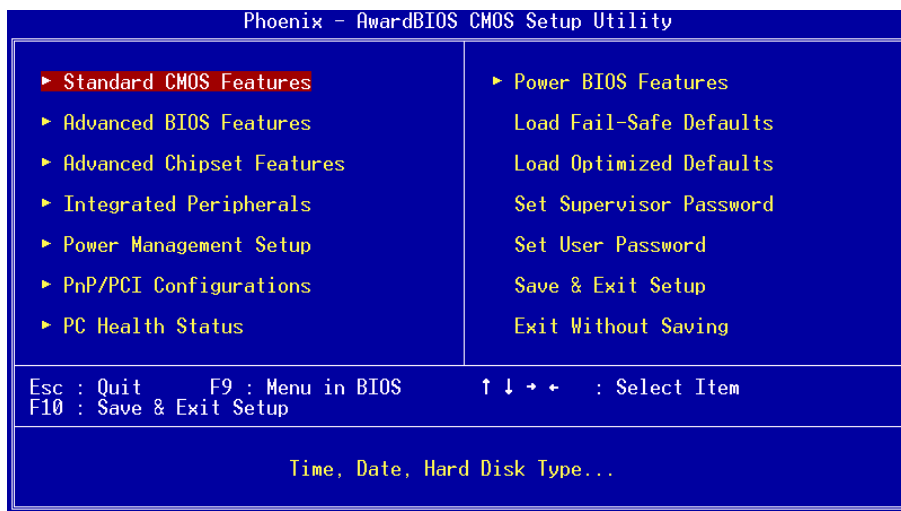


Figure 1: CMOS Setup Utility

The main menu displays all the major selection items. Select the item you need to reconfigure. The selection is made by moving the cursor (press any direction (arrow key)) to the item and pressing the 'Enter' key. An on-line help message is displayed at the bottom of the screen as the cursor is moved to various items which provides a better understanding of each function. When a selection is made, the menu of the selected item will appear so that the user can modify associated configuration parameters.

1. Standard CMOS Setup

Choose "STANDARD CMOS FEATURES" in the CMOS SETUP UTILITY Menu (Figure 2). Standard CMOS Features Setup allows the user to configure system settings such as the current date and time, type of hard disk drive installed, floppy drive type, and display type. Memory size is auto-detected by the BIOS and displayed for your reference. When a field is highlighted (use direction keys to move the cursor and the <Enter> key to select), the entries in the field can be changed by pressing the <PgDn> or the <PgUp> key.

Phoenix - AwardBIOS CMOS Setup Utility	
Standard CMOS Features	
Date (mm:dd:yy)	Fri, Mar 5 2004
Time (hh:mm:ss)	15 : 54 : 56
▶ IDE Channel 0 Master	[None]
▶ IDE Channel 0 Slave	[None]
▶ IDE Channel 1 Master	[None]
▶ IDE Channel 1 Slave	[None]
Drive A	[1.44M, 3.5 in.]
Halt On	[All , But Keyboard]
Base Memory	640K
Extended Memory	65472K
Total Memory	1024K
Item Help	
Menu Level ▶	
Change the day, month, year and century	

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Figure 2: Standard CMOS Setup

- Notes:**
- If the hard disk Primary Master/Slave and Secondary Master/Slave are set to Auto, the hard disk size and model will be auto-detected.
 - The "Halt On:" field is used to determine when the BIOS will halt the system if an error occurs.

2. Advanced BIOS Features

Selecting the “ADVANCED BIOS FEATURES” option in the CMOS SETUP UTILITY menu allows users to change system related parameters in the displayed menu. This menu shows all of the manufacturer’s default values for the board.

Pressing the [F1] key displays a help message for the selected item.

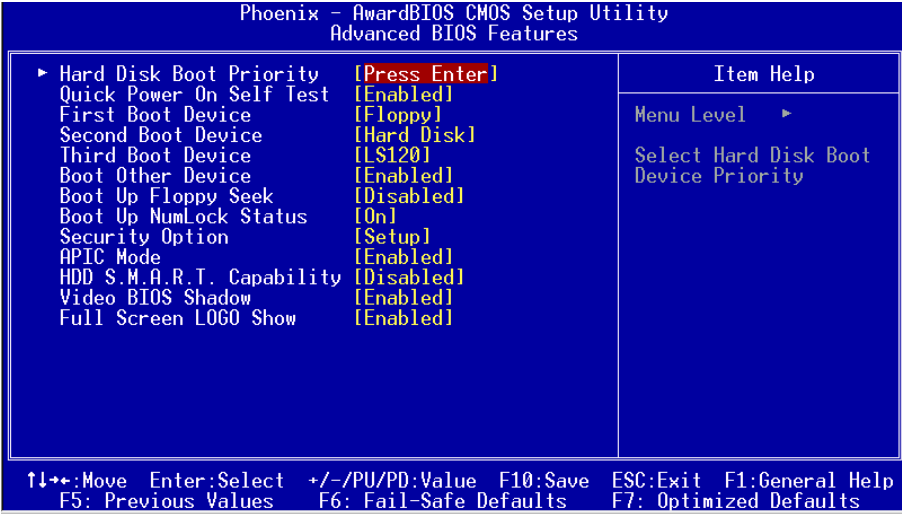
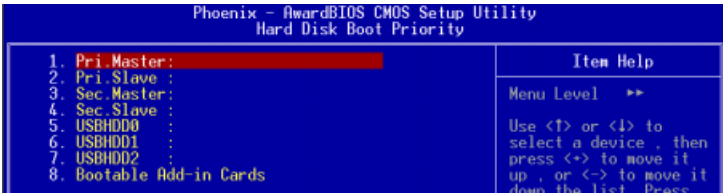


Figure 3: BIOS Features Setup

Hard Disk Boot Priority

This item allows you to select the hard disk boot priority.



Quick Power On Self Test

This category speeds up the Power On Self Test (POST). This setting will shorten or skip some items checked during POST.

Options: Enables, Disabled.

First /Second/Third/Other Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.

Options: Floppy, LS120, Hard Disk, CDROM, ZIP100, USB-FDD, USB-CDROM, Legacy LAN, Disabled.

Boot Other Device

When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the first, second, and third boot devices. The default is Enabled.

Options: Enabled, Disabled.

Boot Up Floppy Seek

If this item is enabled, it checks the size of the floppy disk drives at start-up time. You don't need to enable this item unless you have a legacy diskette drive with 360K capacity.

Options: Enabled, Disabled.

Boot Up NumLock Status

This controls the state of the NumLock key when the system boots. The default is On.

On: The keypad acts as a 10-key pad.

Off: The keypad acts like cursor keys.

Security Option

This category allows you to limit access to the System and Setup, or just to Setup.

System: The system will not boot and the access to Setup will be denied if the correct password is not entered at the prompt.

Setup: The system will boot; but the access to Setup will be denied if the incorrect password is not entered at the prompt.

APIC Mode

This item allows you to enable APIC (Advanced Programmable Interrupt Controller) functionality. APIC is a chip that provides symmetric multiprocessing (SMP) for its Pentium systems.

Options: Enabled, Disabled.

HDD S.M.A.R.T. Capability

The S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) system is a diagnostics technology that monitors and predicts device performance. S.M.A.R.T.

Software resides on both the disk drive and the host computer. If a device failure is predicted, the host software, through the Client WORKS S.M.A.R.T applet, warns the user of the impending condition and advises appropriate action to protect the data.

Options: Enabled, Disabled.

MPS Version Control For OS

Specifies the Multiprocessor Specification (MPS). Version 1.4 supports multiple PCI bus configurations by incorporating extended bus definitions. Enable this for Windows NT or Linux. For older operating systems, select Version 1.1.

Options: 1.1, 1.4.

Video BIOS Shadow

This option allows video BIOS to be copied into RAM. Video Shadowing will increase the video performance of your system.

Options: Enabled, Disabled.

3. Advanced Chipset Features

Choose the “ADVANCED CHIPSET FEATURES” option in the CMOS SETUP UTILITY menu to display following menu.

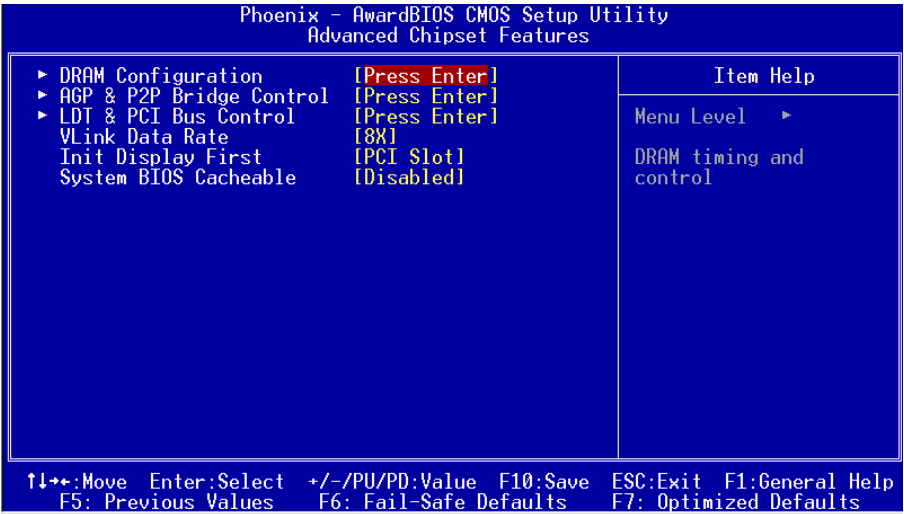


Figure 4: Chipset Features Setup

VLink Data Rate

This item allows you to select VLink Data Rate.

Options: 4X, 8X.

Init Display First

If two video cards are used (1 AGP and 1 PCI) this specifies which one will be the primary display adapter. The default is PCI Slot.

Options: PCI Slot, AGP.

System BIOS Cacheable

This item allows the system to be cached in memory for faster execution. The default is Enabled.

Options: Disabled, Enabled.

► DRAM Configuration

Scroll to DRAM Configuration and press <Enter>. The following screen appears:

Phoenix - AwardBIOS CMOS Setup Utility DRAM Configuration	
Current FSB Frequency	
Current DRAM Frequency	
1T/2T Memory Timing	[Auto]
DDR Timing Setting by	[Auto]
× CAS# latency (Tcl)	Auto
× Min RAS# active time (Tras)	Auto
× RAS# to CAS# delay (Trcd)	Auto
× Row precharge time (Trp)	Auto
× Row to Row delay (Trrd)	Auto
× Row cycle time (Trc)	Auto
× Row refresh cyc time (Trfc)	Auto
× Write recovery time (Twr)	Auto
× Write to Read delay (TwtR)	Auto
× Read to Write delay (Trwt)	Auto
× Refresh period (Tref)	Auto
	Item Help
	Menu Level →

Current FSB Frequency

Display the current CPU front side bus frequency information.

Current DRAM Frequency

Display the current DRAM frequency information.

DDR Clock Selecting by

This option sets DRAM clock. Select “Auto” to follow SPD (Serial Presence Detect) information on DRAM module or set to “Manual” to set by next item selection.

Options: Manual, Auto.

1T/2T Memory Timing

For setting DRAM Timing.

Options: Auto, 1T, 2T.

DDR Timing Selecting by

This option sets DRAM access timing parameters. Select “Auto” to follow SPD (Serial Presence Detect) information on DRAM module or set to “Manual” to set by next item selection.

Options: Manual, Auto.

CAS# Latency

Enables you to select the CAS latency time. The value is set at the factory depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM.

Options: Auto, CL=2.0, CL=2.5, CL=3.

Row cycle time (tRC)

This filed specifies the Row Cycle Time. RAS# active to RAS# active or auto refresh of the same bank.

Options: Auto, 7 Bus Clocks ~ 22 Bus Clocks in 1 Bus clock increments.

Row refresh cyc time (tRFC)

This filed specifies the Row Refresh Cycle Time. Auto-refresh active to RAS# or RAS# to auto refresh.

Options: Auto, 9 Bus Clocks ~ 24 Bus Clocks in 1 Bus clock increments.

RAS# to CAS# delay (tRCD)

This filed specifies the RAS# to CAS# delay to read/write command to the same bank.

Options: Auto, 2 Bus Clocks ~ 7 Bus Clocks in 1 Bus clock increments.

Row to Row delay (tRRD)

This filed specifies the Row to Row delay of different banks.

Options: Auto, 2 Bus Clocks ~ 7 Bus Clocks in 1 Bus clock increments.

Min RAS# active time (tRAS)

This filed specifies the minimum RAS# active time.

Options: Auto, 5 Bus Clocks ~ 15 Bus Clocks in 1 Bus clock increments.

Row precharge Time (tRP)

This filed specifies the Row Precharge Time. Precharge to active or Auto-refresh of the same bank.

Options: Auto, 2 Bus Clocks ~ 6 Bus Clocks in 1 Bus clock increments.

Write recovery time (tWR)

This bits specifies the Write Recovery Time. Called Trd1 by Samsung, measures when the last write datum is safely registered by the DRAM. It measures from the last data to precharge.

Options: Auto, 2 Bus Clocks, 3 Bus Clocks.

Write to Read delay (tWTR)

This bits specifies the Write to Read delay. Samsung Calls this Tcd1r (last data in to read command). It is measured from the rising edge following the last non-masked data strobe to the rising edge of the next Read Command. (Jedec spec this as exactly one clock).

Options: Auto, 1 Bus Clock.

Read to Write delay (tRWT)

This field specifies the Read to write delay. This is not a DRAM specified timing parameter but must be considered due to routing latencies on the clock forwarded bus. It is counted from first address but slot which was not associated with part of the read burst.

Options: Auto, 1 Bus Clock ~ 6 Bus Clocks in 1 Bus clock increments.

Refresh period (tREF)

This field specifies the number of clock cycles between refresh.

Options: Auto, 1 x 1552 cycles ~ 4 x 4672 cycles.

► AGP & P2P Bridge Control

Scroll to AGP & P2P Bridge Control and press <Enter>. The following screen appears:

Phoenix - AwardBIOS CMOS Setup Utility		
AGP & P2P Bridge Control		
AGP Aperture Size	[128M]	Item Help
AGP 2.0 Mode	[4X]	
AGP Driving Control	[Auto]	
x AGP Driving Value	DA	Menu Level ►►
AGP Fast Write	[Disabled]	
AGP Master 1 WS Write	[Enabled]	
AGP Master 1 WS Read	[Enabled]	
AGP 3.0 Calibration cycle	[Disabled]	
DBI Output for AGP Trans.	[Disabled]	
VGA Share Memory Size	[64M]	

AGP Aperture Size

This item defines the size of the aperture if you use an AGP graphics adapter. It refers to a section of the PCI memory address range used for graphics memory.

Options: 32M, 64M, 128M, 256M.

AGP Mode

Chipset AGP Mode support.

Options: 1X, 2X, 4X, 8X.

AGP Driving Control

This item allows you to adjust the AGP driving force. Choose “Manual” to key in a AGP Driving Value in the next selection. This field is recommended to set in “Auto” to avoid any error to your system.

Options: Auto, Manual.

BIOS

AGP Fast Write

Selecting Enabled allows to use Fast Write Protocol for 4X AGP card.

Options: Enabled, Disabled.

AGP Master 1 WS Write

When Enabled, Writes to the AGP (Accelerated Graphics Port) are executed with one wait states.

Options: Enabled, Disabled.

AGP Master 1 WS Read

When Enabled, Reads to the AGP (Accelerated Graphics Port) are executed with one wait states.

Options: Enabled, Disabled.

AGP 3.0 Calibration cycle

This item allows you to select AGP 3.0 Calibration cycle function.

Options: Enabled, Disabled.

VGA Share Memory Size

This item allows you to select the VGA share memory size for video.

Options: 16M, 32M, 64M, Disabled.

► LDT & PCI Bus Control

Scroll to LDT & PCI Bus Control and press <Enter>. The following screen appears:

Phoenix - AwardBIOS CMOS Setup Utility	
LDT & PCI Bus Control	
Upstream LDT Bus Width	[16 bit]
Downstream LDT Bus Width	[16 bit]
LDT Bus Frequency	[Auto]
PCI1 Master 0 WS Write	[Disabled]
PCI2 Master 0 WS Write	[Disabled]
PCI1 Post Write	[Disabled]
PCI2 Post Write	[Disabled]
PCI Delay Transaction	[Disabled]
Item Help	
Menu Level ►►	

Upstream LDT Bus Width

Options: 8 bit, 16 bit.

Downstream LDT Bus Width

Options: 8 bit, 16 bit.

LDT Bus Frequency

This item sets CPU Hyper Transport front size bus.
Options: Auto, 800MHz, 600MHz, 400MHz, 200MHz.

PCI1/2 Master 0 WS Write

When Enabled, Writes to the PCI bus are commanded with zero wait states.
Options: Enabled, Disabled.

PCI1/2 Post Write

Enables CPU to PCI bus POST write.
Options: Enabled, Disabled.

PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.2.
Options: Enabled, Disabled.

4. Integrated Peripherals

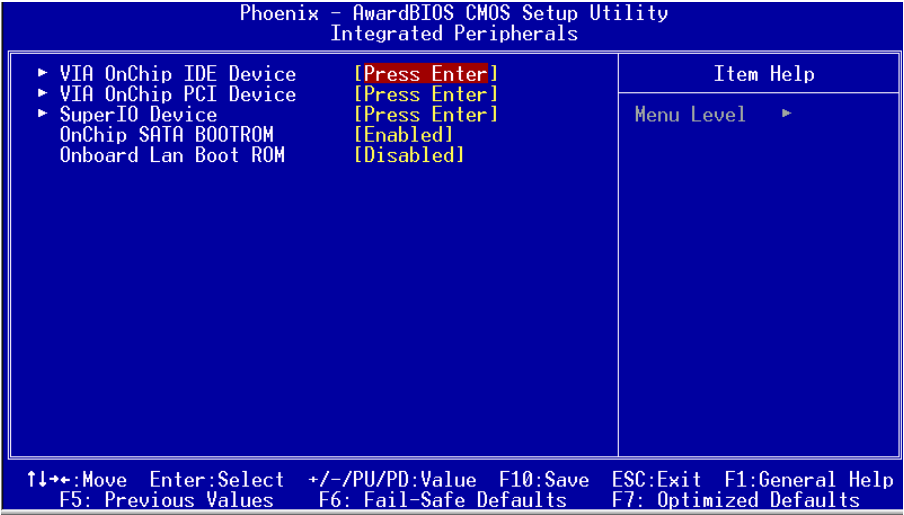


Figure 5: Integrated Peripherals

OnChip SATA BOOTROM/Onboard Lan Boot ROM

Enables/disable the onboard SATA/LAN Boot ROM.
Options: Enabled, Disabled.

► **VIA OnChip IDE Device**

Scroll to VIA Onchip IDE Device and press <Enter>. The following screen appears:

Phoenix - AwardBIOS CMOS Setup Utility			VIA OnChip IDE Device	
OnChip SATA	[Enabled]		Item Help	Menu Level ►►
SATA Mode	[RAID]			
SATA INT Swatch	[INTA]			
IDE DMA transfer access	[Enabled]			
OnChip IDE Channel0	[Enabled]			
OnChip IDE Channel1	[Enabled]			
IDE Prefetch Mode	[Enabled]			
Primary Master	PIO	[Auto]		
Primary Slave	PIO	[Auto]		
Secondary Master	PIO	[Auto]		
Secondary Slave	PIO	[Auto]		
Primary Master	UDMA	[Auto]		
Primary Slave	UDMA	[Auto]		
Secondary Master	UDMA	[Auto]		
Secondary Slave	UDMA	[Auto]		
IDE HDD Block Mode	[Enabled]			

Onchip SATA

Enables the onboard SATA feature.

Options: Enabled, Disabled.

SATA Mode

This allows you to set RAID mode for Serial ATA devices. Refer to section 5 for more RAID information.

Options: RAID, IDE.

IDE DMA transfer access

Automatic data transfer between system memory and IDE device with minimum CPU intervention. This improves data throughput and frees CPU to perform other tasks.

Options: Enabled, Disabled.

OnChip IDE Channel0/1

The mainboard supports two channel of ordinary IDE interface. Select “Enabled” to activate each channel separately.

Options: Enabled, Disabled.

Note: If you do not use the onboard IDE connector, set the Onboard Primary PCI IDE and Onboard Secondary PCI IDE to “Disabled”.

IDE Prefetch Mode

Selecting “Enabled” reduces latency between each drive read/write cycle, but may cause instability in IDE subsystems that cannot support such fast performance. If

you are getting disk drive errors, try setting this value to Disabled. This field does not appear when the Internal PCI/IDE field, above, is Disabled.

Options: Enabled, Disabled.

Primary/Secondary Master/Slave PIO

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 to 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

Options: Auto, Mode 0 ~ 4.

Primary/Secondary Master/Slave UDMA

Select the mode of operation for the IDE drive. Ultra DMA-33/66/100/133 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver. If your hard drive and your system software both support Ultra DMA-33/66/100/133, select Auto to enable UDMA mode by BIOS.

Options: Auto, Disabled.

IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.

Options: Enabled, Disabled.

► **VIA Onchip PCI Device**

Scroll to VIA Onchip PCI Device and press <Enter>. The following screen appears:

Phoenix - AwardBIOS CMOS Setup Utility		
VIA OnChip PCI Device		
VIA AC97 Audio	[Auto]	Item Help Menu Level ►►
VIA MC97 Modem	[Auto]	
Onboard Lan Device	[Auto]	
VIA-6102 MAC Address Input	[Press Enter]	
OnChip USB Controller	[Enabled]	
OnChip EHCI Controller	[Enabled]	
USB Device Function	[Disabled]	
USB Keyboard Support	[Disabled]	
USB Mouse Support	[Disabled]	

AC97 Audio

This item allows you to disable the chipset on-chip support for AC97 Audio.

Options: Auto, Disabled.

AC97 Modem

This item allows you to disable the chipset on-chip support for AC97 Modem.

Options: Auto, Disabled.

Onboard LAN Device

Enables the onboard LAN feature.

Options: Auto, Disabled.

VIA-6102 MAC Address Input

Allwos you to input MAC address.

Onchip USB Controller

Enables the USB controller.

Options: Enabled, Disabled.

Onchip EHCI Controller

Enables the EHCI (USB2.0) controller.

Options: Enabled, Disabled.

USB Keyboard Support

Enable/disable support for USB keyboard under DOS.

Options: Enabled, Disabled.

USB Mouse Support

Enable/disable support for USB mouse under DOS.

Options: Enabled, Disabled.

► Super IO Device

Scroll to Super IO Device and press <Enter>. The following screen appears:

Phoenix - AwardBIOS CMOS Setup Utility		
SuperIO Device		
Onboard FDC Controller	[Enabled]	Item Help
Onboard Serial Port 1	[3F8/IRQ4]	Menu Level ►►
Infrared Port Select	[Disabled]	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[SPP]	
EPP Mode Select	[EPP1.7]	
ECP Mode Use DMA	[3]	

Onboard FDC Controller

Select “Enabled” if you wish to use onboard floppy disk controller (FDC). If you install an external FDC or the system has no floppy drive, select “Disabled” in this field.

Options: Enabled, Disabled.

Onboard Serial Port 1

Select an address and corresponding interrupt for the serial port.

Options: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

Infrared Port Select

Select an address and corresponding interrupt for the Infrared port.

Options: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

Onboard Parallel Port

This field allows the user to configure the LPT port.

Options: 378/IRQ7, 278/IRQ5, 3BC/IRQ7, Disabled.

Parallel Port Mode

This field allows the user to select the parallel port mode.

Options: SPP, EPP, ECP, ECP+EPP.

EPP Mode Select

This field allows the user to select the EPP mode for parallel port mode.

Options: EPP1.9, EPP1.7.

5. Power Management Setup

Choose the “Power Management setup” in the CMOS Setup Utility to display the following screen. This menu allows the user to modify the power management parameters and IRQ signals. In general, these parameters should not be changed unless it’s absolutely necessary.

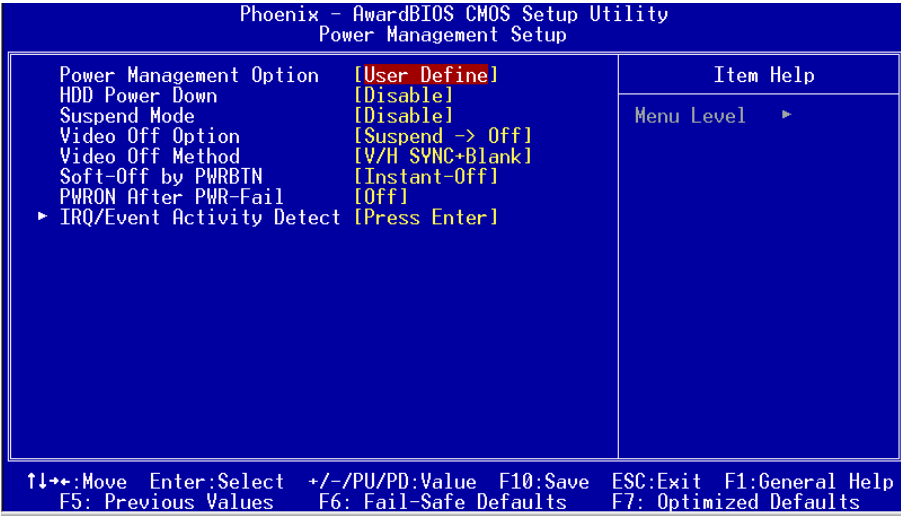


Figure 6: Power Management

Power Management Option

- Use this to select your Power Management selection.** The default is User define.
- Max.saving:** Maximum power savings. Inactivity period is 1 minute in each mode.
- Min.saving:** Minimum power savings. Inactivity period is 1 hour in each mode.
- User define:** Allows user to define PM Timers parameters to control power saving mode.

HDD Power Down

Powers down the hard disk drive after a preset period of system inactivity.
Options: Disabled, 1min ~ 15min.

Suspend Mode

Automatically, shuts off all devices except the CPU after a preset period of system inactivity.
Options: Disabled, 1 , 2, 4 ,6, 8, 10, 20, 30, 40 min and 1 hour .

Video Off Option

When enabled, this feature allows the VGA adapter to operate in a power saving mode.

Always On: Monitor will remain on during power saving modes.

Suspend->Off: Monitor blanked when the systems enters the suspend mode.

Video Off Method

This option allows you to select how the video will be disabled by the power management. The default is V/H Sync + Blank

V/H Sync + Blank: System turns off vertical and horizontal synchronization ports and writes blanks to the video buffer.

DPMS Support: Select this option if your monitor supports the Display Power Management Signaling (DPMS) standard of the Video Electronics Standards Association (VESA). Use the software supplied by your video subsystem to select video power management values.

Blank Screen: System only writes blanks to the video buffer.

Soft-Off by PWRBTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has “hung.” The default is Instant-off.

Options: Delay 4 Sec, Instant-Off.

PWRON After PWR-Fail

This item enables your computer to automatically restart or return to its last operating status after power returns from a power failure.

Off: The system stays off after a power failure.

Former-Sts: The system returns to the state it was in just prior to the power failure.

► IRQ/Event Activity Detect

Scroll to IRQ/Event Activity Detect and press <Enter>. The following screen appears:

Phoenix - AwardBIOS CMOS Setup Utility	
IRQ/Event Activity Detect	
PS2KB Wakeup Select	[Hot key]
PS2KB Wakeup from S4/S5	[Ctrl+F1]
PS2MS Wakeup from S4/S5	[Disabled]
PowerOn by PCI Card	[Enabled]
PowerOn by OnBoard LAN	[Disabled]
Modem Ring Resume	[Disabled]
RTC Alarm Resume	[Disabled]
x Date (of Month)	0
x Resume Time (hh:mm:ss)	0 : 0 : 0
► IRQs Activity Monitoring	[Press Enter]
Item Help	
Menu Level ►►	
When Select Password, Please press ENTER key to change Password Max 8 numbers.	

PS2KB Wakeup Select

This item allows you to select Hot Key or Password to wake-up the system by PS2 Keyboard. If Password is selected, press <Enter> key to change a password with max 8 numbers.

Options: Hot key, Password.

PS2KB Wakeup form S4/S5

This item allows you to set a Hot Key to wake-up the system by PS2 Keyboard.

Options: Disabled, Ctrl+F1, Ctrl+F2, Ctrl+F3, Ctrl+F4, Ctrl+F5, Ctrl+F6, Ctrl+F7, Ctrl+F8, Ctrl+F9, Ctrl+F10, Ctrl+F11, Ctrl+F12, Power, Wake, Any key.

Note: Power and Wake are Windows98 Keyboard button.

PS2MS Wakeup form S4/S5

This item allows you to wake-up the system by PS2 Mouse.

Options: Enabled, Disabled.

PowerOn by PCI Card

An input signal from PME on the PCI card awakens the system from soft-off state.

Options: Enabled, Disabled.

PowerOn by OnBoard LAN

This item allows you to power on the system by onboard LAN from soft-off state.

Options: Enabled, Disabled.

Modem Ring Resume

When set to “Enabled”, any event occurring to the Modem Ring will awaken the system from suspend state.

Options: Enabled, Disabled.

RTC Alarm Resume

When set to Enable rtc alarm resume, you can set the date (of month) and time (hh:mm:ss), that will awaken a system which has been powered down.
Options: Enabled, Disabled.

6. PNP/PCI Configuration

This page lets the user to modify the PCI IRQ signals when various PCI cards are inserted.

WARNING: Conflicting IRQ's may cause system unable to locate certain devices.

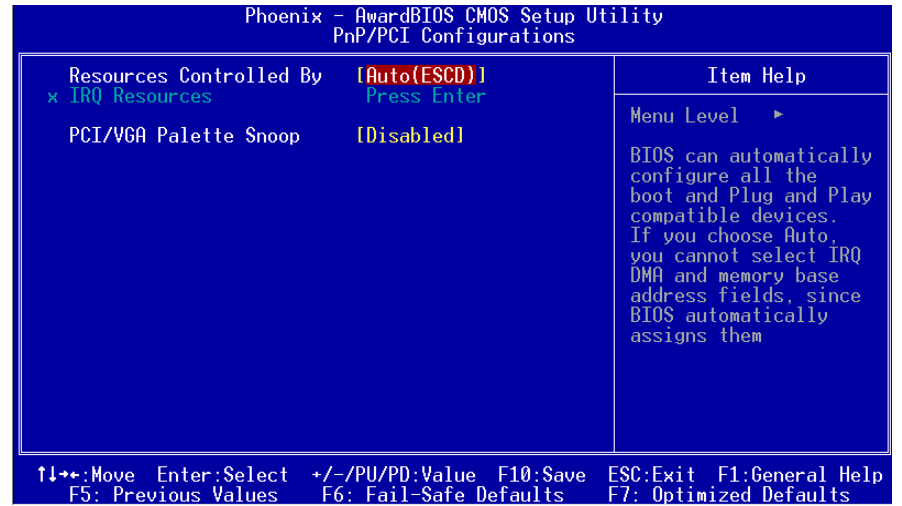


Figure 7: PNP/PCI Configuration Setup

Resources Controlled By

Determines what controls system PNP/PCI resources. The default is Auto (ESCD).
Manual: PNP Card's resources are controlled manually. The "IRQ Resources" field becomes available and you can set which IRQ-X and DMA-X are assigned to PCI and onboard devices.

Auto: BIOS assigns the interrupt resource automatically.

PCI/VGA Palette Snoop

This item is designed to overcome problems that may be caused by some nonstandard VGA cards.
Options: Enabled, Disabled.

7. PC Health Status

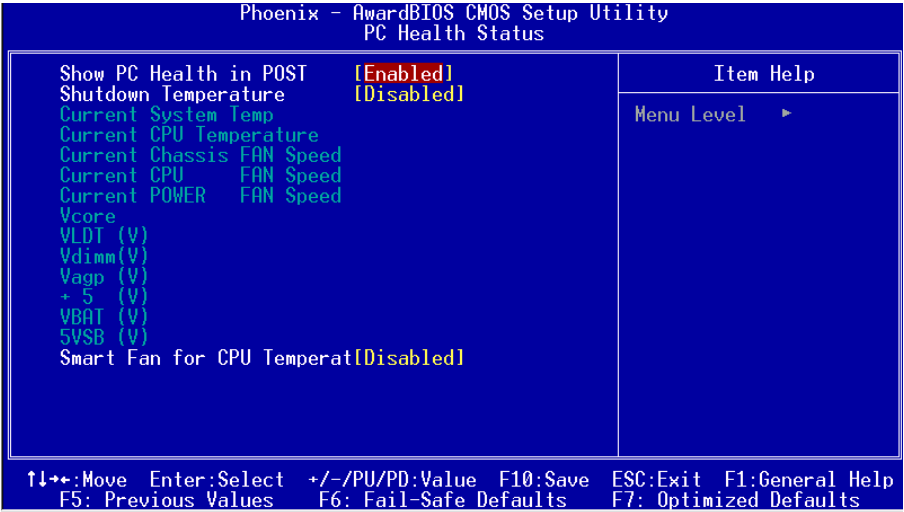


Figure 8: PC Health Status

Show PC Health in POST

When this function is enabled the PC Health information is displayed during the POST (Power On Self Test).
Options: Disabled, Enabled.

Shutdown Temperature

This is the temperature that the computer will turn off the power to combat the effects of an overheating system. (requires ACPI to be enabled in Power Management BIOS and ACPI compliant operating system.) The default is Disabled.
Options available are 60°C/140°F to 70°C/158°F in increments of 5°C.

Current System/CPU Temperature

Displays the current system/CPU temperature.

Current CHASSIS/CPU/POWER FAN Speed

Displays the current speed of the CPU, Power and chassis fan speed in RPMs.

Vcore

The voltage level of the CPU(Vcore).

Vdimm

The voltage level of the DRAM.

Vagp

The voltage level of power supplied to AGP card.

VBAT(V)

The voltage level of the battery.

+5(V), 5VSB(V)

The voltage level of the switching power supply.

Smart Fan for CPU Temperature

This item allows you set CPU fan temperature to smartly adjust the fan speeds for more efficient system operation.

Options: Disabled, 35°C/95°F, 40°C/104°F, 45°C/113°F.

8. Power BIOS Features

This page lets you adjust various parameters to obtain improved performance for overclocking.

Warning:

Overclocking requires expert knowledge and risks permanent damage to system components. We recommend you leave these parameters at their default values for proper operation.

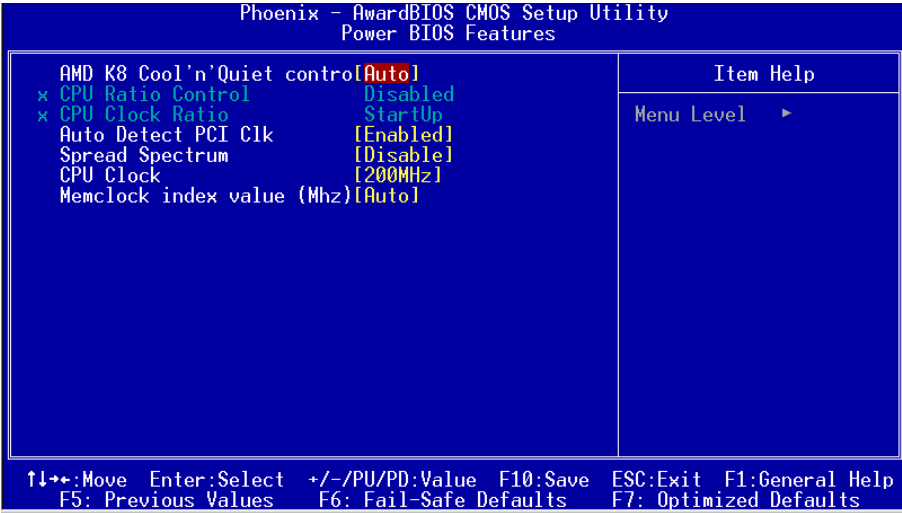


Figure 9: Frequency/Voltage Control

BIOS

AMD K8 Cool'n'Quiet control

Reduce the noise and heat from your PC when AMD's Cool'n'Quiet™ technology is enabled.

Options: Enabled, Disabled.

CPU Ratio Control

This item allows you to enable the CPU clock ratio control. Choose "Enabled" to key in a CPU clock Ratio in the next selection.

Options: Enabled, Disabled.

CPU Clock Ratio

Use this item to select a multiplier to set the CPU frequency. See CPU Clock item below for explanation.

Auto Detect PCI Clk

When enabled the mainboard automatically disables the clock source for a PCI slot which does not have a module in it, reducing EMI (ElectroMagnetic Interference).

Options: Enabled, Disabled.

Spread Spectrum

If you enable spread spectrum, it can significantly reduce the EMI (ElectroMagnetic Interference) generated by the system.

Options: Disabled, Enabled.

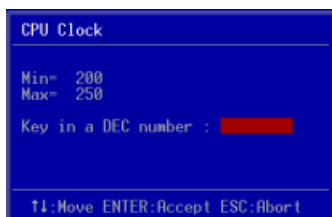
CPU Clock

Enables you to increment the CPU's clock generator at 1MHz step. This works together with CPU Clock Ratio (above) to set the CPU operating frequency.

$\text{CPU Clock Generator} \times \text{CPU Clock Ratio} = \text{CPU Frequency}$

For example, if you have a processor that is rated at 2.4GHz and the clock generator is 200MHz, then $200\text{MHz} \times 12 = 2.4\text{GHz}$

Press <Enter> to display the following screen:



Key in the DEC (decimalism) number for the CPU clock.

Note: Overclocking failure will cause no display on the monitor. To overcome this switch off the power supply and switch on again. Restart the system, press and hold <Insert> key. This will revert the BIOS to default or initial setting.

Memclock index value (Mhz)

This item sets the memory clock. By placing an artificial memory clock limit on the system, memory is prevented from running faster than this frequency. Example, “200” will set to DDR400 speed.

Options: Auto, 100Mhz, 133Mhz, 166Mhz, 200Mhz.

9. Defaults Menu

Selecting “Defaults” from the main menu shows you two options which are described below

Load Fail-Safe Defaults

When you press <Enter> on this item you get a confirmation dialog box:

Load Fail-Safe Defaults (Y/N) ? N

Pressing ‘Y’ loads the BIOS default values for the most stable, minimal-performance system operations.

Load Optimized Defaults

When you press <Enter> on this item you get a confirmation dialog box:

Load Optimized Defaults (Y/N) ? N

Pressing ‘Y’ loads the default values that are factory settings for optimal performance system operations.

10. Supervisor/User Password Setting

This function lets you set either Supervisor or User Password, or both, to prevent unauthorized changes to BIOS menus.

supervisor password: full rights to enter and change options of the setup menus.

user password: only enter but no rights to change options of the setup menus.

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

PASSWORD DISABLED.

When a password has been enabled, you will be prompted to key in each time you enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You can determine when the password is required within the Advanced BIOS Features Menu and its Security option. If the Security option is set to "System", the password will be required both at boot and at entry to Setup. If set to "Setup", prompting only occurs when trying to enter Setup.

11. Exiting BIOS

Save & Exit Setup

Pressing <Enter> on this item asks for confirmation:

Save to CMOS and EXIT (Y/N)? Y

Pressing “Y” stores the selections made in the menus in CMOS – a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

Exit Without Saving

Pressing <Enter> on this item asks for confirmation:

Quit without saving (Y/N)? Y

This allows you to exit Setup without storing in CMOS any change. The previous selections remain in effect. This exits the Setup utility and restarts your computer.